

Chapter 12

HERON'S FORMULA

Example- 5:

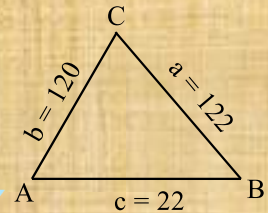
The triangular side walls of a flyover have been used for advertisements. The sides of the walls are 122 m, 22 m and 120 m. The advertisements yield an earning of ₹5000 per m^2 per year. A company hired one of its walls for 3 months. How much rent did it pay ?

Solution:

The sides of the triangular wall are $a = 122 \text{ m}$

$$b = 120 \text{ m}$$

$$c = 22 \text{ m}$$



$$S = \frac{a+b+c}{2} = \frac{122+120+22}{2} = \frac{264}{2} = 132 \text{ m.}$$

The area of a triangular side wall is given by

$$= \sqrt{S(S-a)(S-b)(S-c)}$$

$$\text{Area} = \sqrt{132(132-122)(132-120)(132-22)}$$

$$= \sqrt{132(10)(12)(110)}$$

$$= \sqrt{12 \times 11 \times 10 \times 12 \times 11 \times 10}$$

$$= 12 \times 11 \times 10$$

$$= 1320 \text{ m}^2.$$

Rent for 1 year per $\text{m}^2 = ₹5000$

$\Rightarrow$ 12 months per $\text{m}^2 = ₹5000$

3 months per $\text{m}^2 = ?$

$\therefore$ For 3 months per $\text{m}^2 = \frac{5000 \times 3}{12}$

Rent for 3 months for $1320 \text{ m}^2 = \frac{5000 \times 3}{12} \times 1320$ ¹¹⁰
 $= ₹16,50,000.$

